APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,993	11/26/2003	Hiroaki Yamamoto	FUJH 20.767 (100794-00516	7993

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EXAMINER
LEE, CHUN KUAN

ART UNIT	PAPER NUMBER
2181	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/723,993	YAMAMOTO ET AL.
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3 and 5-8* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,3 and 5-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
14/22/2006

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 11/06/2006 has been entered.

Response to Arguments

2.   Applicant's arguments filed 11/06/2006 have been fully considered but

they are not persuasive. Currently, claims 1 and 4 are cancelled and claims 2-3

and 5-8 are pending for examination.

3.   In response to applicant's argument that the examiner's conclusion of

obviousness is based upon improper hindsight reasoning, as stated on page 8,

3rd paragraph to page 9, 1st paragraph. Applicant's arguments are fully

considered, but are not found to be persuasive.

        Please note that it must be recognized that any judgment on obviousness

is in a sense necessarily a reconstruction based upon hindsight reasoning. But

so long as it takes into account only knowledge which was within the level of

ordinary skill at the time the claimed invention was made, and does not include

knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Furthermore, applicant appears to argue that Nagarajan is nonanalogous art, because Nagarajan's ATM cell is fix length while AAPA's IP packet is variable length. Please note that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, both Nagarajan and AAPA are associated with the transferring of data over a network; furthermore, Nagarajan's dynamic allocation and re-allocation of buffers for a corresponding service class (i.e. CoS) in a multi-class queue network would be reasonably pertinent to the applicant's attempt to solve the problem associated with the amount of memory allocated to each CoS area is uniform and fixed.

4.   In responding to applicant's argument regarding the rejection of independent claim 3 rejected under 35 U.S.C. 103(a) that neither AAPA nor Nagarajan disclose or suggests simulating statues of transferring packets having a variable length in an IP network or the claimed conversion table, as stated on page 9, 2nd paragraph. Applicant's arguments are fully considered, but are not found to be persuasive.

Please note that the recitation "used for simulating status of transferring

packet having a variable length in an IP network" has not been given patentable

weight because the recitation occurs in the preamble. A preamble is generally

not accorded any patentable weight where it merely recites the purpose of a

process or the intended use of a structure, and where the body of the claim does

not depend on the preamble for completeness but, instead, the process steps or

structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190

USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478,

481 (CCPA 1951).

Furthermore, the examiner relies on AAPA for the disclosure regarding the

transferring of variable length packet over the IP network (Specification, page 1,

ll. 10-19); and relies on both AAPA and Nagarajan for the teaching of the claimed

"conversion table" (AAPA, Specification, page 2, l. 5 to page 4, l. 25 and

Nagarajan, col. 1, l. 20 to col. 5, l. 13).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

5.   Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Applicant Admitted Prior Art (AAPA) in view of <u>Nagarajan et al.</u> (US Patent

6,240,066).

6.   As per claim 2, <u>AAPA</u> and <u>Nagarajan</u> teach all the limitation of claim 3 as

discussed below, where <u>AAPA</u> further teaches the packet buffer management

system comprising wherein said control method for the received packets includes

delay for the packet, packet loss, packet order inversion, or error insertion, and

said service classes are classified by an IP address or TCP/UDP port number

comprised by the header portion of said packet (<u>AAPA</u>, Specification, page 2, l.

16 to page 3, l. 12).

7.   As per claim 3, <u>AAPA</u> teaches a packet buffer management system used

for simulating status of transferring packet having a variable length in an IP

network, comprising:

        a packet type identification control portion (Drawings, Fig. 17, ref. 2)

attaching (attaching by appending) a TAG information for identifying a service

class to a received packet, which is of a variable length and is transferred in an

IP network, according to an identification information of the received packet and

outputting the received packet with the TAG information (Specification, page 1, ll.

10-19 and page 2, ll. 16-26);

        a buffer memory (Drawings, Fig. 17, ref. 6) to store the received packet

(Specification, page 1, ll. 20-25); and

a buffer management control portion (Drawings, Fig.17, ref 5) to control writing and reading the received packet attached with the TAG information to and from said buffer memory (Specification, page 2, l. 27 to page 3, l. 6),

wherein the buffer management control portion includes,

a service class characteristic table (Drawings, Fig. 17, ref. 8) in which an operation control is set for each received packet, corresponding to a service class, which is identified by the TAG information (Specification, page 2, ll. 16-26 and page 3, ll. 7-12); and,

wherein the service class characteristic table comprising the number of service class setting and the amount of buffer memory allocated to each COS area is uniform and fixed (Specification, page 2, l. 5 to page 4, l. 25).

AAPA does not teach the packet buffer management system, comprising:

a conversion table in which allocated areas of said buffer memory corresponding to service classes are stored,

wherein said conversion table modifies the allocated areas of said buffer memory according to the number of service class settings in said service class characteristic table.

Nagarajan teaches a packet management system comprising an algorithm for dynamically allocating and re-allocating (modifying by re-allocation) of buffers for a corresponding service class in a multi-class queue network switch (col. 1, l. 20 to col. 5, l. 13).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Nagarajan's algorithm for dynamic buffer

allocation and re-allocation into AAPA's buffer management control portion. The

resulting combination of the references teaches the implementation of a table

utilizing the algorithm for dynamic allocation and re-allocation of the CoS area for

each of the service class utilizing the number of service class set in the service

class characteristic table.

Therefore, it would have been obvious to combine Nagarajan with AAPA

for the benefit of ensuring maximum usage of the buffer resource by

implementing tight allocation of buffer areas (Nagarajan, col. 2, l. 47 to col. 3, l.

59).

8.   Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Applicant Admitted Prior Art (AAPA) and Nagarajan et al. (US Patent

6,240,066), and further in view of Bernath et al. (US Patent 6,526,070).

9.   As per claim 5, AAPA and Nagarajan teach all the limitation of claim 3 as

discussed above, where AAPA further teaches the packet buffer management

system comprising:

a packet pointer management memory (AAPA, Drawings, Fig. 17, ref. 7)

to store transfer pointers indicating the storage position of packets stored in said

packet buffer (AAPA, Specification, page 3, ll. 3-23 and page 4, ll. 8-15),

wherein said buffer management control portion performs control of

received packets based on packet existence notification (as packet is outputted

from the packet type identification control portion) and based on the operation

control for the received packets, set in said service class characteristic table

(AAPA, Specification, page 2, l. 16 to page 3, l. 23).

AAPA does not teach the packet buffer management system comprising

time stamp values indicating the time at which packets are stored and said buffer

management control portion performs control of received packets based on time

stamp values.

Bernath teaches a system and a method comprising:

a time tag (time stamp) value indicating the time at which packets are

stored; and controlling responses associated with the received packets based on

the time tag value (Fig. 7; col. 1, l. 14 to col. 5, l. 14 and col. 10, l 10 to col. 11, l.

2).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Bernath's time tag into AAPA and Nagarajan's

packet buffer management system.

Therefore, it would have been obvious to combine Bernath with AAPA and

Nagarajan for the benefit of increasing data throughput by reducing collision of

transferred data (Bernath, col. 1, l. 14 to col. 5, l. 14).

10.   As per claim 8, AAPA, Nagarajan and Bernath teach all the limitations of

claim 5 as discussed above, where AAPA and Bernath further teaches the

packet buffer management system comprising means for storing in said packet

pointer management memory the time of packet storage in said packet buffer as

the time stamp and for judging whether the packet can be transferred by

comparing said time stamp with the reference time (present local clock) within

the buffer management control portion at the time of packet transfer analysis,

wherein when a preset delay time has not elapsed, said time stamp is stored in a

time stamp buffer provided in service class units, and in subsequent transfer

analysis the time stamp within said time stamp buffer is compared with the

reference time (Bernath, col. 10, l 10 to col. 11, l. 2), wherein transmission of the

packet is enabled only when the amount of time delay have elapsed resulting in

the matching of the value of the present local clock (reference time) with the

value of the local time programmed into the upstream transmission time register,

wherein the local time utilized for programming the upstream transmission time

register is the time tag associated with the time which the packet was received

and stored.

11.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicant Admitted Prior Art (AAPA), Nagarajan et al. (US Patent 6,240,066) and

Bernath et al. (US Patent 6,526,070), and further in view of Beshai et al. (US

Patent 6,570,872).

AAPA, Nagarajan, and Bernath teach all the limitation of claim 5 as

discussed above, where AAPA and Bernath further teach the packet buffer

management system comprising wherein, as an operation control of said buffer

management control portion, received packet order inversion are performed by

moving the transfer pointer based on said time stamp value (AAPA,

Specification, page 3, ll. 7-23 and Bernath, col. 10, l 10 to col. 11, l. 2), wherein

the time stamp value will provide the transient order in which the packets are

received and then utilizing each time stamp value associated with the received

packet, the received order may be inverted accordingly.

AAPA, Nagarajan, and Bernath does not expressly teach router path

modification are performed.

Beshai teaches a network switch comprising reconfiguration of the inlet-

outlet path (router path modification) within a predefined transient time (col. 1, l.

13 to col. 4, l. 9).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Beshai's modifying by reconfiguration of the router

path into AAPA, Nagarajan, and Bernath's packet buffer management system.

Therefore, it would have been obvious to combine Beshai with AAPA,

Nagarajan, and Bernath for the benefit of interleaving time-critical data and

delay-tolerant data on a shared transmission medium and increase data transfer

by maximizing direct ingress/egress data transfer (Beshai, col. 1; l. 13 to col. 4, l.

9).

12.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicant Admitted Prior Art (AAPA) and Nagarajan et al. (US Patent 6,240,066),

and further in view of Kreifels (US Patent 4,891,788)

AAPA and Nagarajan teach all the limitation of claim 3 as discussed

below, where AAPA further teaches the packet buffer management system

comprising operations to store packets in said buffer memory, packet registration

operations (wherein the packet is identified and the associated tag is appended

to the packet), transfer pointer read operations, and packet transfer analysis

operations (operation base on the CoS characteristic set in the service class

characteristic table for the associated received packet) (AAPA, Specification, Fig.

17 and page 1, l. 20 to page 4, l. 15).

AAPA does not expressly teach that the operations are each performed in

parallel.

Kreifels teaches a buffering system and a method wherein the read

operation and write operation can be implemented simultaneously (in parallel)

(col. 1, ll. 15-24).

It would have been obvious to one of ordinary skill in this art, at the time of

invention was made to include Kreifels' simultaneous operation into AAPA and

Nagarajan's packet buffer management system.

Therefore, it would have been obvious to combine Kreifels with AAPA and

Nagarajan for the benefit of implementing an asynchronous operation, enabling

faster processing of the received packet as one operation can operate without

waiting for the completion of a previous operation (Kreifels, col. 1, ll. 15-24).

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone

number is (571) 272-0671. The examiner can normally be reached on 8AM to

5PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

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12/21/2006